Application No.: 10/593,034

Response to Office Action mailed: November 24, 2009

Response dated: May 24, 2010

Page 2

AMENDMENTS TO THE CLAIMS

The following Listing of Claims will replace all preceding listing of claims in the application.

Listing of Claims:

Claim 1. (Original): A 3-[3-(benzoylamido)benzyloxy]aspartic acid having a radioactive substituent on the benzoyl group which is represented by the following formula (1), or an ester or salt thereof:

$$R^2O_2C$$
 CO_2R^1
 NH_2
 CO_2R^1
 CO_2R^1

wherein X represents a substituent containing a radioactive atom(s) which is selected from a straight or branched lower aliphatic alkyl group, a hydroxyl group, a straight or branched lower aliphatic alkoxy group, an amino group, a straight or branched lower aliphatic acylamido group, a halogen atom and a straight or branched lower aliphatic haloalkyl group; and R¹ and R² each represents a hydrogen atom, a straight or branched lower aliphatic alkyl group or an acetoxymethyl group.

Claim 2. (Currently Amended): A compound as claimed in claim 1 wherein X is ¹²⁵I<u>or</u> a tritium-containing ethyl group.

Claim 3. (Original): A precursor compound of a compound as claimed in claim 1 represented by the following formula (2):

Application No.: 10/593,034

Response to Office Action mailed: November 24, 2009

Response dated: May 24, 2010

Page 3

NHBoc
$$R^2O_2C$$
 CO_2R^1

wherein R¹ and R² each represents a hydrogen atom, a straight or branched lower aliphatic alkyl group or an acetoxymethyl group; Y represents a leaving group to undergo a substitution reaction which is selected from an organometallic group, a halogen atom, a diazo group, a diazonium group, a trialkylammonium group and a nitro group; and Boc represents a t-butoxycarbonyl group.

Claim 4. (Previously Presented): The precursor compound as claimed in claim 3, wherein Y is -Sn(n-Bu)₃.

Claim 5. (Previously Presented): A method for producing a compound as claimed in claim 1 which comprises subjecting a precursor compound of formula (2)

NHBoc
$$R^2O_2C$$
 CO_2R^1

wherein R¹ and R² each represents a hydrogen atom, a straight or branched lower aliphatic alkyl group or an acetoxymethyl group; Y represents a leaving group to undergo a substitution reaction which is selected from an organometallic group, a halogen atom, a diazo group, a diazonium group, a trialkylammonium group and a nitro group; and Boc represents a t-butoxycarbonyl group, to an exchange reaction with a radioactive atom and then removing the protecting group to give a compound of the formula (2).

Application No.: 10/593,034

Response to Office Action mailed: November 24, 2009

Response dated: May 24, 2010

Page 4

Claim 6. (Previously Presented): The method as claimed in claim 5 which comprises subjecting the precursor compound of formula (2) wherein Y is -Sn(n-Bu)₃ to an oxidative tiniodine exchange reaction with Na¹²⁵I in the presence of an oxidizing agent and acetic acid to thereby give a compound of formula (1) wherein X is ¹²⁵I.

- Claim 7. (Original): A radiolabeled inhibitor of glutamate transporter activity comprising a compound as claimed in claim 1.
- Claim 8. (Original): A radioactive ligand to a glutamate transporter comprising a compound as claimed in claim 1.
- Claim 9. (Previously Presented): A method for examining distribution and/or expression of glutamate transporter and/or glutamate uptake level in a biological sample which comprises:
- a) contacting the biological sample with a compound as claimed in claim 1, an inhibitor as claimed in claim 7 or a ligand as claimed in claim 8;
- b) detecting the presence or absence of the compound, the inhibitor or the ligand having bound specifically to the biological sample with the use of the radioactivity as an indicator; and
- c) in the case where the specific binding is observed in the above step b), estimating that the glutamate transporter is distributed or expressed in the biological sample or that the part of the body from which the biological sample was obtained participates in glutamate uptake.
- Claim 10. (Original): A compound as claimed in claim 1 wherein, in the formula (1), X is a tritium-containing ethyl group ($X=C_2H_3T_2$), and each of R^1 and R^2 is a hydrogen atom.
- Claim 11. (Original): A precursor compound of a compound of the formula (1) as claimed in claim 10 which is represented by the following formula (3):

Application No.: 10/593,034

Response to Office Action mailed: November 24, 2009

Response dated: May 24, 2010

Page 5

$$R^3$$
 HO_2C
 CO_2H
 R^3
 R^3

wherein R³ represents a straight or branched lower unsaturated aliphatic alkenyl group.

Claim 12. (Original): A precursor compound as claimed in claim 11 wherein R³ is a vinyl group, a propenyl group, an allyl group or a butenyl group.

Claim 13. (Original): A method for producing a compound of the formula (1) as claimed in claim 10 which comprises reacting a precursor compound of the formula (3) with tritium gas in the presence of a palladium catalyst.

Claim 14. (Previously Presented): The method as claimed in claim 13 wherein, in the precursor compound of the formula (3), R³ is a vinyl group, a propenyl group, an allyl group or a butenyl group.